REMARKS

Claims 1-16 are pending in this application.
Claims 1-16 are rejected.

The office action dated March 31, 2004 indicates that claims 1-2, 5-8, 11-12 and 14- 16 are rejected under 35 USC §102(e) as being anticipated by Chen U.S. Patent No. 6,542,400, and that claims 3-4, 9-10 and 13 are rejected under 35 USC §103 as being unpatentable over Chen in view of others. The office action also indicates that claims 1, 2, 7, 8, 11, 12, 15 and 16 are rejected under 35 USC §103(a) as being unpatentable over Thomas U.S. Patent No. 6,498,349 in view of Danz et al. U.S. Patent No. 5,637,370, and that claims 3-6, 9-10 and 13-14 are rejected under 35 USC §103(a) as being unpatentable over Thomas et al. in view of Danz and others.

The Chen patent is a '102(e) reference since it issued after the filing date of the present application, but was filed on March 27, 2001, which is before the filing date of the present application.

The attached Rule 131 Declaration removes the Chen patent as a '102(e) reference. The Rule131 Declaration establishes a date of conception prior to March 27, 2001. The Rule 131 declaration includes an invention disclosure that was prepared by the inventor, Janice H. Nickel. The invention disclosure was submitted to the Hewlett-Packard legal department on April 13, 2000. The invention disclosure establishes that the inventor conceived the invention of claim 1 prior to the filing date of the Chen patent (all claims recites a data storage device including an array of nanotubes). Support for claim 1 can be found in the attached invention disclosure.

Diligence was exercised from conception to constructive reduction to practice. Specifically, the patent application was prepared and filed within fifteen months of being submitted to the Hewlett-Packard legal department.

Because conception of the claimed invention occurred before the filing date of the Chen patent, and because diligence was exercised in constructively reducing the claimed invention to practice, the rejections in view of the Chen patent should be withdrawn.

The '103 rejections of claims 1-16 over Thomas and Danz are respectfully traversed. Thomas et al. disclose an addressable field-emission array including a plurality of addressable emitters. The emitters may be based on carbon nanotubes (col. 6, lines 8-11). At col. 1, lines 44-45, Thomas et al. state that their invention relates to "an addressable field emitter array of the type that can be termed lithographic." At col. 1, lines 56-58, Thomas et al. suggests that their array can be used for optical lithography for semiconductor wafer production. Thomas et al. do not teach or suggest that the nanotubes can be used for data storage.

Danz et al. disclose an information storage device including a substrate and a polymer layer on the substrate. The polymer layer is polarizable by a focused electron beam (see Abstract).

Danz et al. indicate that an electron scanning microscope is used to generate the focused beam to write to the polymer layer (col. 4, lines 9-13). However, Danz et al. say little more about the electron beam source. They don't explicitly state that nanotubes can be used to generate the focused beam. They don't provide reason, motivation or incentive to use nanotubes to generate the focused beam. They don't state general parameters or identify problems that would make nanotubes an obvious replacement for the electron scanning microscope.

The applicant, in contrast, discloses the criticality of nanotubes. See paragraph 0010 of the application, which states the following.

> More rugged than Spindt emitters, the nanotubes are not damaged if they make contact with the storage medium. In addition, the nanotubes have a higher electron beam directionality than Spindt emitters. The higher directionality results in an electron beam having increased focus and accuracy, which allows bit size to be reduced. Reducing the bit size increases storage density and reduces storage cost. The higher directionality also allows the tips of the nanotubes to be spaced further from the storage medium. The nanotubes also have a lower material transfer rate than Spindt emitters The lower transfer rate increases the effective life of the electron sources.

The examiner states his opinion that it would be obvious to use Thomas et al.'s emitter array in place of Danz et al.'s electron scanning microscope. With all due respect, however, a rejection must be based on facts, not an examiner's opinion. According to MPEP 2143.01, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination

The examiner is respectfully requested to withdraw the rejections of the claims and issue a notice of allowability. The examiner is invited to contact the undersigned to discuss any remaining issues